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ABSTRACT

Instructional technology allows students to visualize complex ideas and understand abstract concepts in a manner that simply is not possible with the use of just lecture and a chalkboard. The use of instructional technology in a class and the impact that it has on students are almost wholly dependent on individual instructors. While a small percentage of faculty, early adopters of technology, will integrate technology into their courses with little prompting or assistance, most faculty will not. Mainstream faculty typically need encouragement, ready access to technology, training, and support before they take steps toward enhancing how and what they teach with the use of technology. This paper discusses the commitment to technology made by Middle Tennessee State University (MTSU), and the ways it has helped faculty to develop instructional technology and effectively incorporate it into their courses by providing: awareness; access, to permanent and portable equipment; training; support; time, to integrate technology into the course content; and recognition for using instructional technology. (Author/SWC)

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Supporting Faculty's Development and Use of Instructional Technology

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ABSTRACT

A projected image of a three-dimensional model rotates and changes with new data in front of a classroom of students studying a new mathematical theory. The speech given by the President less than 24 hours before is displayed for a political science class as the students discuss its various points. Instructional technology is allowing students to visualize complex ideas and understand abstract concepts in a manner that simply is not possible with the use of just lecture and a chalkboard. The use of instructional technology in a class and the impact that it has on students are almost wholly dependent on individual instructors. While a small percentage of faculty, early adapters of technology, will integrate technology into their courses with little prompting or assistance, most faculty will not. Mainstream faculty typically need encouragement, ready access to technology, training, and support before they take steps toward enhancing how and what they teach with the use of technology.

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Introduction

In 1989, the administration of Middle Tennessee State University (MTSU) made a commitment to technology on a large scale when the decision was made to provide every full-time faculty member with a microcomputer. During that year, workshops covering the use of a variety of software applications were offered to the faculty. In 1994, the Office of Information Technology (OIT) initiated the development and installation of MTSU's first master classrooms, and an academic committee was formed to award release time and summer pay grants to faculty developing instructional technology. In 1996, the MTSU Foundation funded an annual award for outstanding achievement in instructional technology. These milestones and other steps have been taken at MTSU to give faculty the awareness, access, training, support, and recognition that they need to develop instructional technology and effectively incorporate it into their courses.

Awareness

Some of the first questions asked by faculty regarding the use of technology in the classroom include, "What could I do differently with technology?" and "Is the use of instructional technology really useful to my students?" Obviously, faculty needed to know the possibilities as well as the advantages of the use of instructional technology before they were willing to extend the effort it took to bring it into their own classes.

While microcomputers have been on the MTSU campus for a number of years, before 1994 little was being done to integrate their use in most classes. In the spring of 1994, OIT sponsored a faculty symposium that focused on how instructional technology is being used in higher education. Presenters from a variety of disciplines demonstrated how they developed multimedia applications and how they applied them in their courses. Other conferences and symposiums are held annually that feature the various ways technology can change how and what instructors teach.

Access

Faculty need access to technology of all types. Networked computer and audio/visual equipment in faculty offices, classrooms, and multimedia development facilities must be readily available. The equipment must also be reasonably up-to-date, stable, and reliable.

First and foremost, every faculty member should have a computer on his or her desk. Day-to-day usage of productivity software allows instructors to type syllabi and tests, record grades, send and receive electronic mail, and create handouts and transparencies. Becoming acquainted with the impact technology can have on their office tasks, research, communication, and printed materials is a crucial first step in the evolution of MTSU faculty's use of technology in the classroom.

The almost total absence of computer and audio/visual equipment in classrooms on the MTSU campus severely restricted the use of technology in the classroom. Prior to 1994, a few industrious instructors brought portable computers and LCD panels to class, but this setup proved limiting as well as cumbersome. Eight master classrooms made the necessary technologies both accessible and convenient to instructors for the first time. These specially-equipped classrooms provide a wide range of computer, media, projection, communication, and control capabilities, including connection to the campus network. These rooms are easy to use and feature a wide variety of presentation and demonstration equipment including a computer, document camera, VCR, and laser disc player. During the past two years, over two hundred MTSU faculty have taught in one of these rooms and have creatively used the technology to enhance, complement, or even reinvent their subject matter.

While master classrooms have been on campus for two years, MTSU just recently equipped a multimedia development center. An additional center is scheduled to open in early 1997. These centers feature specialty equipment that a typical instructor does not have in his or her office. A development center list of equipment includes color flatbed scanner, slide scanner, CD-ROM mastering system, and video/audio digitizing equipment. A wide variety of specialty software is also provided.

In addition to permanent facilities, instructors also need access to portable equipment. OIT has a supply of portable computers and LCD projection panels for faculty use. These check-out systems are in high demand and play an important role in making technology available "anytime, anywhere."

Training

Lack of training creates a barrier to faculty's use of technology in general. Faculty require a hands-on experience in workshops and orientations that are offered at convenient times.

With microcomputers arriving on campus in large numbers in 1989, OIT offered the first faculty development workshops. Initially, these workshops covered the use of operating systems, productivity software such as word processing, spreadsheet, and database, desktop publishing, electronic mail, and statistical software. Over the past few years, the workshops grew in number and scope to include the use of presentation and multimedia authoring software. Recently, several workshops focusing on the use of technology in the curriculum and instructional design have been offered.

To make sure that faculty new to master classrooms are comfortable using the equipment, OIT offers orientations in several of these classrooms each semester. One-on-one training sessions are conducted throughout the semester.

Additional training opportunities are available to MTSU faculty with the annual Mid-South Instructional Technology Conference and Faculty Summer Instructional Technology Institute. These events feature a variety of presentations, workshops, and discussion groups that focus on the effective use of technology in higher education.

Support

Support is critical to faculty using instructional technology. They need technical support for the hardware and software in their offices and in the classrooms. They also need support with the development of technology-based instructional tools such as multimedia applications.

Microcomputer specialists and technical support specialists provide faculty with technical support on computer hardware and peripherals as well as software applications. Technical support is also provided for modems and network connections. This support includes acquisition assistance, installation and configuration of equipment and applications, and troubleshooting of hardware and software.

OIT's instructional technology support specialist provides one-on-one assistance with the development of multimedia applications. Additional support includes consultation on the integration of technology into courses and instructional design. Through a list service, the instructional technology specialist provides information to faculty on hardware, software, pedagogy, and training opportunities.

Time

Many faculty understand that integrating technology will enhance their courses and communicate complex ideas to students more effectively, but they simply don't have the time to revamp their courses to accommodate the use of technology. Effective instructional technology takes time to develop and the demands on a faculty member's time does not allow for hours of development.

When planning the first master classrooms in 1993, a decision was made to allocate some of the funding for the project to faculty release-time and summer-pay grants. An academic committee was formed, grant guidelines were written, and the first grants were awarded. Since 1994, fifty MTSU faculty members have received either three credit hour release time or summer pay grants. These grants give them time to rethink their curriculum and develop technology-based instructional tools for use in the classroom.

Many innovative projects have been completed by faculty receiving grants. A sampling includes: utilization of authoring software to develop presentations that illustrate trauma situations to nursing students, creation of an interactive tutorial for

use in an art orientation course, preparation of an algebra tutorial for use in the classroom and the lab, and development of multimedia materials including digitized video and sound to present the characteristics of children with disabilities to education students.

Recognition

Incentives and encouragement ensure the effective widespread and long-term use of instructional technology by faculty and recognize the value of instructional improvement.

OIT's bi-monthly newsletter recognizes the accomplishments of MTSU faculty in the area of instructional technology use and development. Other campus publications also feature articles about faculty's use of technology-based teaching tools. Many of the MTSU faculty who have developed multimedia applications and incorporated them into their classes have presented their acheivements at conferences.

At the beginning of this year, the MTSU Foundation funded an annual award for outstanding acheivement in the use and development of instructional technology. The award features a cash allotment of $1,500 as well as recognition of the value of the faculty member's work in the area of instructional improvement.

Conclusion

MTSU has made great strides in the past few years in its efforts to encourage and support instructional technology use by its faculty. In addition to the current methods of providing awareness, access, training, support, time, and recognition for faculty that are using instructional technologies in their teaching, there are other ways that MTSU can continue to assist faculty in their instructional technology endeavors.

Future plans for instructional technology at MTSU include: continuing to construct more master classrooms on campus, expanding the campus network, adding to the inventory of check-out equipment, increasing the time and support available to grant recipients, continuing to expand workshop offerings, developing a comprehensive WWW page of instructional technology resources, offering more comprehensive application support through the use of additional staff, highlighting grant recipients' accomplishments on OIT's WWW pages, and continually exploring new avenues for recognition.

As we move into the future, the constant challenge will be to continue to encourage new and mainstream faculty to integrate technology into their teaching while providing existing instructional technology users with an even more advanced level of support. MTSU welcomes the challenge and looks forward to the possibilities that advances in instructional technology can provide for our faculty.